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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,411	02/06/2006	**Markus Zabel**	3286-102	5190

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EXAMINER	
PATEL, NATASHA	

ART UNIT	PAPER NUMBER
3766	

NOTIFICATION DATE	DELIVERY MODE
02/19/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/567,411	ZABEL ET AL.	
	Examiner	Art Unit	
	NATASHA N. PATEL	3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/14/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 12/8/08 has been received and considered. By this amendment, Claims 1-18 remain pending with no cancellations or additions.

Response to Arguments

1. Applicant's arguments filed on 12/8/08 have been fully considered but they are not persuasive.

2. Applicant argues that Dower does not disclose a measuring means for generating a first measured data record. However, Examiner respectfully points to col. 6, lines 55-62 where an electrograph is produced. The examiner considers that an ECG is a record of measured data.

3. Applicant also argues that the two signals, determined in a temporally offset fashion, are not synchronized. However, since Dower's two signals are synchronized from the start (and therefore not temporally offset), there is no need to synchronize them afterwards. Nevertheless, when temporally offset signals are used, as suggested by Evans, it would be obvious to one of ordinary skill in the art at the time of the invention to synchronize them to get back to the synchronized state of Dower's signals. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product is not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show it was obvious under 35 USC 103 (KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727,

1742, 82, USPQ2d 1385, 1396 (2007)). In other words, BSM using linear transformation and synchronization are identified, predictable solutions from which a person of ordinary skill has good reason to pursue synchronization to get the same anticipated success achieved by linear transformation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dower (US Patent 5,711,304) in view of Evans et al. (US Patent 5,377,687).

6. Regarding Claims 1, 2, 4, 11, 17, and 18, Dower discloses an ECG system for large-surface recording of ECG signals, characterized by a first measuring means (10) for generating a first measured data record including at least one reading of the cardiac currents (V1-V6) at least one lead site of the first measuring means (10) being variable during the recording of the large-surface ECG signals (see col. 6, lines 45-62), a second measuring means (20) for simultaneously generating a second measured data record including at least one reading of the cardiac currents (see RA, RL, LL, and LA), the lead site of the second measuring means (20) being spatially invariable during the recording of the large-surface ECG signals in order to obtain continuous measurement results (see col. 1, lines 32-41), and a data processing system (30) having a means for

synchronizing at least two signals (see col. 13, lines 33-40) of the first measured data record with at least one continuously detected signal of the second measured data record. The examiner considers that the lead sites in the first measuring means are variable they can be switched from synthesized to unsynthesized (see col. 6, lines 45-62 and col. 7, lines 28-40). Furthermore, the examiner considers the exploring electrode to be a part of the first measuring means (see col. 2, lines 8-25). The examiner considers that the second measuring means would be spatially invariable during recording because one would not want to move a grounding electrode during recording since that would defeat the purpose of noise elimination. Dower does not disclose that the two signals are determined in a temporally offset fashion. Evans discloses a similar mapping analysis wherein the signals are determined in a temporally offset fashion (see col. 11, lines 24-33). It would have been obvious to one of ordinary skill in the art at the time of the invention to try and collect signals even if they are in an offset manner because doing so provides a larger amount of data to work with later. As shown by Evans, the data can always be manipulated and cleaned up later on (see col. 11, lines 24-33). Evans further discloses a means for correcting the baseline of individual cardiac currents (see col. 11, lines 24-33).

7. Regarding Claim 3, Modified Dower discloses cardiac currents from a temporal sequence of thorax leads (V1 - V6) at different thorax positions (see Figure 1).

8. Regarding Claim 5, Modified Dower discloses that the second measured data record includes at least one measurement of the cardiac currents of all the extremity leads (see Figure 4).

9. Regarding Claim 6, Dower discloses that the synchronization is performed with the aid of at least one prominent signal pattern of the second measured data record (see col. 6, line 63-col. 7, line 17).

10. Regarding Claims 7-9, Dower does not elaborate on the specific portions of the ECG waves. Evans discloses signal patterns as well wherein the R wave in the second measured data record is used for the purpose of combining the signals (see col. 5, lines 16-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to use distinguishing characteristics of the ECG signal waveform because Evans teaches that doing so reduces the complexity of map analysis (see col. 5, lines 16-26).

11. Regarding Claim 10, Dower does not elaborate on the specific steps of processing the signals. Evans discloses a filter, a means for averaging and/or for determining the median for signals of the first measured data record and/or of the second measured data record (see col. 24, lines 56-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to use averaging or any other means of filtering the data because Evans teaches that doing so allows for easier and more accurate analysis (see col. 24, lines 65-col. 25, line 2).

12. Regarding Claim 12, Dower discloses a visual display (see col. 8, lines 29-34). Dower does not explicitly disclose the amplitudes though. Evans discloses a similar processing system (see CPU 32) that uses the amplitude values of all the thorax readings to determine a graphic display of the instantaneous potential distribution automatically for any desired instant of a measurement relative to a time reference

obtained by means of a signal of the second measured data record (see col. 11, lines 34-50).

13. Regarding Claim 13, Evans discloses that the graphic display is a QRST integral map display (see col. 11, lines 60-65 and col. 12, lines 17-24).

14. Regarding Claims 15 and 16, Evans discloses variance of the measurement results can be ascertained with the aid of a measure of specific ECG potential levels, in particular R-R intervals, QT times and/or of a comparison of a mean value of a measure of an ECG potential level of one measurement phase with the mean value for measures of ECG potential levels of all the measurement phases (see col. 20, lines 34-56).

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dower (US Patent 5,711,304) and Evans et al. (US Patent 5,377,687) in view of Mills (US Patent 4,608,987).

16. Regarding Claim 14, neither Dower nor Evans discloses the specifics of attaching the electrodes to the patient's chest. However, Mills teaches that such devices include various forms, including vests (see Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a vest to hold the electrodes because Mills teaches that a vest provides better electrical engagement with the patient's skin (see abstract).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tereschouk (US Patent 6,358,214) discloses combining diagnostics from several sources as well.

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATASHA N. PATEL whose telephone number is (571)272-5818. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl H. Layno can be reached on 571-272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Natasha N Patel/
Examiner, Art Unit 3766

/Carl H. Layno/
Supervisory Patent Examiner, Art Unit 3766